

Appl. No.: 09/902,502
Amdt. Dated: 06/29/2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): An apparatus for inspecting a reflective EUV mask blank for defects, comprising:
an EUV light source; and
~~means~~ a CCD camera array configured for simultaneously imaging multiple points in an area of a mask blank in response to reflections of light from said EUV light source impinging on said mask blank.
2. (currently amended): ~~An apparatus as recited in claim 1, wherein said EUV light source comprises a synchrotron.~~ An apparatus for inspecting a reflective EUV mask blank for defects, comprising:
an EUV light source; and
a micro-channel plate detector configured for simultaneously imaging multiple points in an area of a mask blank in response to reflections of light from said EUV light source impinging on said mask blank.
3. (original): ~~An apparatus as recited in claim 1, wherein said means for imaging comprises an EUV detector positioned to record said reflections.~~ An apparatus as recited in claim 1 or 2, wherein said EUV light source comprises a synchrotron.
4. (canceled)
5. (canceled)

Appl. No.: 09/902,502
Amdt. Dated: 06/29/2004

6. (currently amended): An apparatus as recited in claim 1 or 2, further comprising a pinhole filter positioned between said EUV light source and said mask blank.

7. (currently amended): An apparatus for inspecting a reflective EUV mask blank for defects, comprising:
means for directing EUV light to a mask blank; and
means a CCD camera array configured for simultaneously imaging multiple points of an area of a mask blank in response to reflections of EUV light impinging on said mask blank.

8. (currently amended): ~~An apparatus as recited in claim 7, wherein said means for directing EUV light comprises a synchrotron.~~ An apparatus for inspecting a reflective EUV mask blank for defects, comprising:
means for directing EUV light to a mask blank; and
a micro-channel plate detector configured for simultaneously imaging multiple points of an area of a mask blank in response to reflections of EUV light impinging on said mask blank.

9. (currently amended): ~~An apparatus as recited in claim 7, wherein said means for imaging comprises an EUV detector positioned to record said reflections.~~ An apparatus as recited in claim 7 or 8, wherein said means for directing EUV light comprises a synchrotron.

10. (canceled)

11. (canceled)

Appl. No.: 09/902,502
Amdt. Dated: 06/29/2004

12. (currently amended): An apparatus as recited in claim 7 or 8, further comprising a pinhole filter positioned between said means for directing EUV light and said mask blank.

13. (currently amended): An apparatus for inspecting a reflective EUV mask blank for defects, comprising:

an EUV light source configured to direct a beam of light toward a mask blank;
and

an EUV detector configured to simultaneously image multiple points of an area of said mask blank in response to light from said EUV light source reflected from said area of said mask blank to be imaged;

wherein said EUV detector is selected from the group of detectors consisting of a CCD camera array and a micro-channel plate detector.

14. (original): An apparatus as recited in claim 13, wherein said EUV light source comprises a synchrotron.

15. (canceled)

16. (canceled)

17. (original): An apparatus as recited in claim 13, further comprising a pinhole filter positioned between said EUV light source and said mask blank.

18. (currently amended): An apparatus for inspecting a reflective EUV mask blank for defects, comprising an EUV light source positioned to direct a beam of light to a mask blank, and an EUV detector positioned to simultaneously record the reflection from a multiple points of an area of the mask blank in a single exposure to said EUV

Appl. No.: 09/902,502
Amdt. Dated: 08/29/2004

light source, wherein said EUV detector is selected from the group of detectors consisting of a CCD camera array and a micro-channel plate detector.

19. (original): An apparatus as recited in claim 18, wherein said EUV light source comprises a synchrotron.

20. (canceled)

21. (canceled)

22. (original): An apparatus as recited in claim 18, further comprising a pinhole filter positioned between said EUV light source and said mask blank.

23. (currently amended): A method for inspecting a reflective EUV mask blank for defects, comprising simultaneously imaging multiple points of an area of a mask blank with an EUV detector in response to reflections of light from an EUV light source impinging on said mask blank, wherein said EUV detector is selected from the group of detectors consisting of a CCD camera array and a micro-channel plate detector.

24. (original): A method as recited in claim 23, wherein said EUV light source comprises a synchrotron.

25. (canceled)

26. (canceled)

27. (canceled)

Appl. No.: 09/902,502
Amdt. Dated: 06/29/2004

28. (original): A method as recited in claim 23, further comprising filtering said EUV light source with a pinhole filter.

29. (currently amended): A method for inspecting a reflective EUV mask blank for defects, comprising:

directing a beam of light from an EUV light source toward a mask blank; and
simultaneously imaging multiple points of an area of said mask blank with an EUV detector in response to light from said EUV light source reflected from said area of said mask blank to be imaged;

wherein said EUV detector is selected from the group of detectors consisting of a CCD camera array and a micro-channel plate detector.

30. (original): A method as recited in claim 28, wherein said EUV light source comprises a synchrotron.

31. (canceled)

32. (canceled)

33. (canceled)

34. (original): A method as recited in claim 31, further comprising filtering said EUV light source with a pinhole filter.

35. (currently amended): A method for inspecting a reflective EUV mask blank for defects, comprising:

positioning an EUV light source to direct a beam of light to a mask blank;
positioning an EUV detector to simultaneously record the reflection from multiple points of an area of the mask blank in a single exposure to said EUV light source; and

Appl. No.: 09/902,502
Amdt. Dated: 06/29/2004

analyzing said recorded reflection to determine the presence of a defect in said mask blank;

wherein said EUV detector is selected from the group of detectors consisting of a CCD camera array and a micro-channel plate detector.

36. (original): A method as recited in claim 35, wherein said EUV light source comprises a synchrotron.

37. (canceled)

38. (canceled)

39. (original): A method as recited in claim 35, further comprising filtering said EUV light source with a pinhole filter.